

### **REMARKS**

The applicant respectfully request reconsideration in view of the amendment and the following remarks. The applicant has amended claims 2 and 12 to overcome the 35 U.S.C. 112 rejections. The applicant has further amended the claims and change the language “if appropriate” to “optional”.

Claims 2 and 12 are rejected under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-10, and 13-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Commereuc US 5,898,092 (“Commereuc”). Claims 1-4, 8-10, and 13-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schwab US 6,130,181 (“Schwab”). Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwab or Commereuc in view of Meyer US 5,055,019 (“Meyer ‘019”). Claims 5-6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwab in view of Garg US 6,391,072 (“Garg”). Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwab or Commereuc in view of Meyer US 4,542,113 (Meyer ‘113”). The applicant respectfully traverses these rejections.

### **35 U.S.C § 112 Rejections**

Claims 2 and 12 are rejected under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant has amended claims 2 and 12 and believes that these claims as amended are in compliance with 35 U.S.C. 112. For the above reasons, this rejection should be withdrawn.

**35 U.S.C. 102(b) Rejections**

Claims 1-10, and 13-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Commereuc. Claims 1-4, 8-10, and 13-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schwab.

Claim 1 of the present application is directed to a supported catalyst having a maximum of the distribution function of the pore diameters from 0.008 to 0.050  $\mu\text{m}$  (see claim 1). This maximum is not explicitly disclosed in Commereuc as recognized by the Examiner at the bottom of page 2 of the office action.

One possibility to come to a supported catalyst with such a maximum of the distribution function is to start with an appropriate catalyst (see claim 10 or claim 13 of the present application), alternatively, an other way is the production can be carried out using a pore-forming material (P) according to claim 5 of the present application.

There is no hint in Commereuc to use one of these possibilities of production to yield a supported catalyst with a distinct maximum of the distribution function as defined in claim 1 of the present application. In example 1, of Commereuc refers to a cubic gamma alumina having a surface area of 184  $\text{m}^2/\text{g}$  and a pore volume of 0.67  $\text{ml/g}$  (see lines 44 to 46 in column 4 of Commereuc). However, based on these data it is impossible to predict the maximum of the distribution function. Even if one of the inventive catalysts in the examples of the present application, i.e. examples 1, 3-6 and 8, also has these properties - which the applicant believes is not the case - this does not mean that the maximum value requirement is necessarily fulfilled in Commereuc.

It is impossible to determine the maximum distribution function of the pore diameter in the mesopore range based on the lack of disclosure concerning the type of catalyst, e.g. catalyst name and provider. The catalyst has not been enabled so that the applicant can possibly determine what is the maximum distribution function. Therefore, the applicant does not believe that Commereuc teaches the applicant's claimed maximum distribution.

Furthermore, as it can be seen from claim 1 of Commereuc, the problem to be solved by Commereuc is an improved rhenium containing catalyst, whereas this problem is solved by a special particle size, surface area and distribution of the rhenium active component. There is no hint in Commereuc concerning the support to use a certain maximum of the distribution function of the pore diameters to achieve a catalyst having improved deactivation rates compared to a catalyst having a maximum lying outside the range of 0.008 to 0.050  $\mu\text{m}$  (see tables i) - iii) on pages 11 and 12 of the present application). Thus, the subject matter of claim 1 of the present application is non-obvious in view of Commereuc.

The same argumentation as for Commereuc holds true for Schwab. The German counterpart of Schwab is cited in the specification at page 4, line 4 of the specification. As the Examiner correctly stated at the bottom of page 4 of the Office Action, Schwab does not expressly state the maximum of the distribution function. Only the characteristic of the unmodified support are given in the example. Catalyst A and B are only characterized by having a surface area of 228  $\text{m}^2/\text{g}$  and a porosity of 0.66  $\text{cm}^3/\text{g}$  as can be seen from column 4 starting in line 46 of Schwab. As stated in the applicant's specification at page 4, lines 1-4,

The rhenium oxide is particularly preferably present in crystallites smaller than 1 nm on the surface. This corresponds to rhenium surface areas (determined by means of  $\text{N}_2\text{O}$  chemisorption) of **greater than 0.4  $\text{m}^2/\text{g}$**  as described in DE 19, 837, 203 for coated catalysts. (emphasis added)

Again, emphasis is made to special  $\text{Re}_2\text{O}_7$  particles with a certain diameter, surface area and distribution. The applicant does not believe that Schwab teaches the applicant's claimed maximum distribution. For the above reasons, these rejections should be withdrawn.

**Schwab or Commereuc Rejection in view of Meyer '019**

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwab or Commereuc in view of Meyer '019. As stated above, neither Schwab nor Commereuc teaches the use of a supported catalyst having a maximum of the distribution function of the pore diameters from 0.008 to 0.050  $\mu\text{m}$ .

The German counterpart of Meyer '019 is cited in the specification at page 2, line 32 of the specification. Meyer '019 does not teach the use of a supported catalyst having a maximum of the distribution function of the pore diameters from 0.008 to 0.050  $\mu\text{m}$  to result in improved, catalysts with regard to the deactivation rate.

Furthermore, Meyer '019 addresses a broader range of pore diameters from 6 to 200 nm (see abstract of Meyer '019), where the upper level is far beyond the mesoporous range. Meyer '019 clearly does not recognize the applicant's claimed mesoporous range. For the above reasons, this rejection should be withdrawn.

**Rejection of Schwab in view Garg**

Claims 5-6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwab in view of Garg. As stated above, Schwab does not teach the use of a supported catalyst having a maximum of the distribution function of the pore diameters from 0.008 to 0.050  $\mu\text{m}$ . Garg refers to abrasive grits and thus lies in a completely different technical field (see the

abstract). Garg makes reference to microvoids having a diameter from 0.1 to 5  $\mu\text{m}$  which is by far beyond the mesoporous range (see claim 1 of Garg). For the above reasons, this rejection should be withdrawn.

**Schwab or Commereuc Rejections in view of Meyer '113**

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwab or Commereuc in view of Meyer. As stated above, neither Schwab nor Commereuc teaches the use of a supported catalyst having a maximum of the distribution function of the pore diameters from 0.008 to 0.050  $\mu\text{m}$ . Meyer '113 does not teach to use the specific maximum of a distribution function as claimed by the applicant. For the above reasons, this rejection should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 13156-00070-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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